

Remarks

A. Pending Claims

Claims 121, 123-126, 128-154, and 1691-1718 are pending. Claims 121, and 123-125 have been amended. Claims 1691-1718 are new. Claims 122, 127, and 188-205 have been cancelled without prejudice.

B. The Claims Are Definite Under 35 U.S.C. §112, Second Paragraph

Claims 121-154 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 121 has been amended for clarification. Amendments to claim 121 are supported in Applicant's specification at least on page 147, lines 12-21. Applicant believes that amended claim 121, and the claims dependent thereon, are definite under 35 U.S.C. §112, second paragraph.

C. Selected Claim Rejections Pursuant To 35 U.S.C. §102(e) and 35 U.S.C. §103(a)

Claims 188-205 were rejected as being anticipated by numerous patents and published applicants under 35 U.S.C. §102(e). Claims 188-199 and 201-205 were also rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,023,554 to Vinegar et al. Claims 188-205 have been cancelled.

D. The Claims Are Not Obvious Over Vinegar '089 Pursuant To 35 U.S.C. §103(a)

Claims 121-124, 126-128, and 140-147 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,411,089 to Vinegar et al. (hereinafter "Vinegar '089"). Applicant respectfully disagrees with these rejections.

To reject a claim as obvious, the Examiner has the burden of establishing a *prima facie* case of obviousness. *In re Warner et al.*, 379 F.2d 1011, 154 U.S.P.Q. 173, 177-178 (C.C.P.A. 1967). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP § 2143.03.

Amended claim 121 describes a combination of features including, but not limited to: “providing heat from one or more heaters to at least a portion of the formation, wherein at least one of the heaters is in an uncased portion of a wellbore in the formation, wherein the uncased portion of the wellbore has been sized, at least in part, so that a minimum space between the heater and the formation is maintained after expansion of the formation in the wellbore caused by heating of the formation, and wherein the expansion of the formation in the wellbore is estimated based on the richness of one or more zones in the formation”. Vinegar ‘089 does not appear to teach or suggest at least the above-quoted features of claim 121.

Vinegar ‘089 discloses: “In the preferred method of the present invention, a wellbore is drilled using well known techniques, and then a heater is placed within the wellbore. Given time, the formation will close tightly around the heater.” (Vinegar ‘089, column 6, lines 4-8). Vinegar ‘089 appears to teach allowing the formation to close tightly around the heater. Vinegar ‘089 does not appear to teach or suggest sizing a wellbore so that a minimum space between the heater and the formation is maintained after expansion of the formation in the wellbore caused by heating of the formation as described in amended claim 121. Applicant respectfully requests removal of the rejection of claim 121 and the claims dependent thereon.

In addition, many of the claims dependent on claim 121 are believed to be separately patentable. Amended claim 123 describes a combination of features including: “wherein the minimum space is at least about 0.5 cm”. The amendment is supported in the specification at least on page 147, lines 18-19. The cited art does not appear to teach or suggest at least the above-quoted features of claim 123, in combination with the other features of the claim.

Claim 124 describes a combination of features including: “wherein the minimum space is at least about 0.3 cm”. The amendment is supported in the specification at least on page 147, lines 18-19. The cited art does not appear to teach or suggest at least the above-quoted features of claim 124, in combination with the other features of the claim.

Claim 126 describes a combination of features including: “controlling the heating using a temperature limited heater.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 126, in combination with the other features of the claim.

Claim 140 describes a combination of features including: “placing a liner in at least one of the wellbores, between at least a part of one of the heaters and the formation, wherein the liner inhibits heater deformation caused by thermal expansion of the formation during heating.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 140, in combination with the other features of the claim. Vinegar ‘089 discloses: “A packer, 20, will provide a seal between the formation and the combustion air conduit contents.” (Vinegar ‘089, column 7, lines 11-13). Vinegar ‘089 does not appear to teach or suggest a liner as described in claim 140.

Claim 141 describes a combination of features including: “wherein the liner comprises a mechanical strength sufficient to inhibit collapsing of the liner proximate relatively rich zones of the formation.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 141, in combination with the other features of the claim.

Claim 142 describes a combination of features including: “wherein the liner comprises one or more openings to allow fluids to flow through the wellbore in which the liner is placed.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 142, in combination with the other features of the claim.

Claim 147 describes a combination of features including: “heating at least a part of the formation to substantially pyrolyze at least some hydrocarbons in the formation.” The cited art

does not appear to teach or suggest at least the above-quoted features of claim 147, in combination with the other features of the claim.

E. Double Patenting Rejection

Claims 188-205 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Pat. Nos. 6,929,067; 6,789,625; and 6,769,483. Claims 188-205 have been cancelled.

Claims 121-154 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims in numerous commonly owned patents in view of Vinegar '089. Many of the cited commonly owned patents do not include subject matter related to the present application. For example, U.S. Patent No. 6,929,067 includes 5 independent claims, one of which is a method claim. A representative system claim and the method claim are:

1. A system configurable to heat an oil shale formation, comprising: a conduit configurable to be placed in an opening in the formation; a first electrically conductive material clad to at least a portion of an inside surface of the conduit; a conductor configurable to be placed in the conduit, wherein the conductor is further configurable to provide an electrically resistive heat output during application of electrical current to the conductor; a second electrically conductive material clad to at least a portion of the conductor, wherein the second electrically conductive material lowers an electrical resistance of the conductor in an overburden of the formation during use; and wherein the system is configurable to allow heat to transfer from the conductor to a part of the formation during use.

15. An in situ method for heating an oil shale formation, comprising: applying an electrical current to a conductor to provide heat to at least a portion of the formation, wherein the conductor is placed in a conduit, wherein the conduit is placed in an opening in the formation, wherein the conductor is clad to an electrically conductive material, and wherein the electrically conductive material lowers an electrical resistance of the conductor in an overburden of the formation during use; allowing the heat to transfer from the conductor to a part of the formation; and pyrolyzing at least some hydrocarbons in the formation.

The claims of the 6,929,067 patent do not appear to relate to the present application except in a very broad manner. The claims of the 6,929,067 patent, in view of Vinegar '089 do not appear to teach or suggest the features of the rejected claims. This is an examination of just one of the 73 cited patents. Filing a terminal disclaimer for the present application over the 73 listed patents would appear to unjustly limit the term of a patent that issues based on the present application. Also, filing a terminal disclaimer would unjustly limit the right to separate the

patents from each other (i.e., individually sell or assign the patents subject to the terminal disclaimer) even though the patents are directed to different subject matter. Applicant requests a more detailed analysis of why at least one of the claims of each of the commonly owned patents in light of Vinegar '089 would raise issues of double patenting.

Also, for at least the reasons stated above in section D of this document, claim 121 and the claims dependent thereon are not obvious over Vinegar '089. Applicant requests removal of the double patenting rejections of the claims.

F. New Claims

New claim 1691 is supported by Applicant's Specification at least on page 147, lines 12-21. Applicant believes that the combination of features described in claim 1694 are patentable over the cited art for at least the reasons outlined above in section D of this document.

New claim 1695 is supported by Applicant's Specification at least on page 147, lines 12-21, and page 148, lines 2-17. Applicant believes that the combination of features described in claim 1695 are patentable over the cited art for at least the reasons outlined above in section D of this document

G. Additional Comments

Applicant submits that all claims are in condition for allowance. Favorable reconsideration is respectfully requested.

Applicant hereby requests a one-month extension of time. A fee authorization is enclosed to cover the fee for the one-month extension of time. If any additional fees are required, please appropriately charge those fees to Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C. Deposit Account Number 50-1505/5659-21400/EBM.

Respectfully submitted,

A handwritten signature in black ink, reading "David W. Quimby". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

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